



Louisiana Department of Wildlife and Fisheries **& The Saskatchewan Legacy**



Conserving Saskatchewan's Critical Waterfowl Habitat

Report prepared for April 2013 to March 2014

Submitted by Ducks Unlimited Canada and Ducks Unlimited Inc.





This report highlights DUC's habitat accomplishments within Saskatchewan's Allan/Dana Hills, Coteau, Lightning, Trampling Lake East and Upper Assiniboine priority areas during the period of April 1, 2013 to March 31, 2014.

Overview **2**

Sound Science **3**

Priority Areas **4**

Funding & Accomplishments **5**

Securing the Legacy **7**

APPENDIX

OVERVIEW



Ducks Unlimited (DU) is the world leader in wetland conservation.

Since 1937, DU has invested over two billion dollars in waterfowl and wildlife habitat conservation in the United States, Canada and Mexico. In Canada alone, DU has completed over 9,387 habitat projects, securing 6.4 million acres and positively influencing over 105.3 million acres of habitat that benefit waterfowl, wildlife and people. Besides waterfowl, numerous species of wildlife, including many threatened or endangered species live and flourish on DU projects.

The **Louisiana Department of Wildlife and Fisheries (LDWF)** have contributed to waterfowl conservation on the Canadian Prairies since 1964. This partnership with DU recognizes the importance of Canadian waterfowl production to the Louisiana hunter.

Over the past 50 years, Louisiana has contributed over \$10.5 million to this effort.

In July 2012, DU requested funding from the Louisiana Department of Wildlife and Fisheries in response to the critical waterfowl needs of the Saskatchewan Prairie Pothole Region (PPR). This request was for three years of funding at an annual amount of \$325,000 to support DUC's conservation efforts in FY2013 to FY2015 on these breeding grounds.

LDWF subsequently contributed \$326,399 to support this important work. This final report highlights LDWF funding that was matched by DU and the combined total matched by the North America Wetlands Conservation Act (NAWCA), and other partners to realize **\$1,305,600** in support of conservation efforts in the Saskatchewan PPR priority areas and surrounding landscapes.



SOUND SCIENCE

DUC uses the best scientific research available to direct, evaluate and modify DUC's conservation programs and practices so that DUC can most effectively meet the conservation needs of waterfowl in the PPR. This union of science and conservation sets DUC apart from other non-government conservation organizations in Canada.



YOUR SUPPORT IS KEY

LDWF funding provides a significant contribution to the goals of the PHJV. Although much remains to be accomplished, this funding is critical to our joint efforts to reach these important goals.

BASED ON SOUND SCIENCE



DUC has led the last 20 years of *waterfowl breeding as related to habitat conditions* research in the Canadian PPR. Scientists searched over 350,000 acres of habitat for nests, radio tracked 3,920 mallard hens and located and determined the nesting fate on over 10,000 nests. This data has greatly increased our understanding of nesting duck habitat selection and success.

The research supports DUC's efforts to develop strategic waterfowl habitat recovery plans that are implemented and evaluated using a *waterfowl productivity model* that relates duck production to habitat condition. Based on the model, DUC has defined waterfowl needs for its priority landscapes in the PPR and specifically, habitat actions needed to restore duck populations within these landscapes. These needs are represented in the habitat objectives set out in the *PHJV Implementation Plan*.

DUC, Canadian government and industry partners have committed to research to better understand landscape change. Studies on wetland loss, nutrient loading, flood prediction and carbon sequestration has been a recent focus of DUC's science effort. This work has led to valuable science that is currently guiding changes to wetland protection, watershed planning and agricultural programs on the Canadian prairies.

Wetland conservation that benefits our environment, economy and future and that is based on sound science will further help to sustain North America's waterfowl populations.



DUC is a proud partner of the NAWMP. The PHJV, a partnership led by federal and provincial governments, DUC, Nature Conservancy of Canada and Wildlife Habitat Canada, has collaborated on waterfowl conservation under NAWMP in Prairie Canada since 1986. DUC leads the delivery of conservation programs and science to support NAWMP goals on the Canadian Prairies. The success of DUC's programs in Saskatchewan, particularly in the prairie pothole-laden target areas, are critical in supporting the NAWMP goal of achieving sustainable waterfowl production. The PHJV goal is to protect, restore and enhance an additional 15 million acres over the next 25 years of the NAWMP.

BAND RECOVERIES

Origin of ducks harvested in Louisiana from 1986–2012.



WATERFOWL BREEDING

Breeding duck density and distribution within the PPR of Saskatchewan. Yellow and red areas represent the highest duck densities in the province. This map is based on over 50 years of U.S. Fish and Wildlife Service survey data and represents average waterfowl distribution over the long term.

FOCUSING ON PRIORITY AREAS

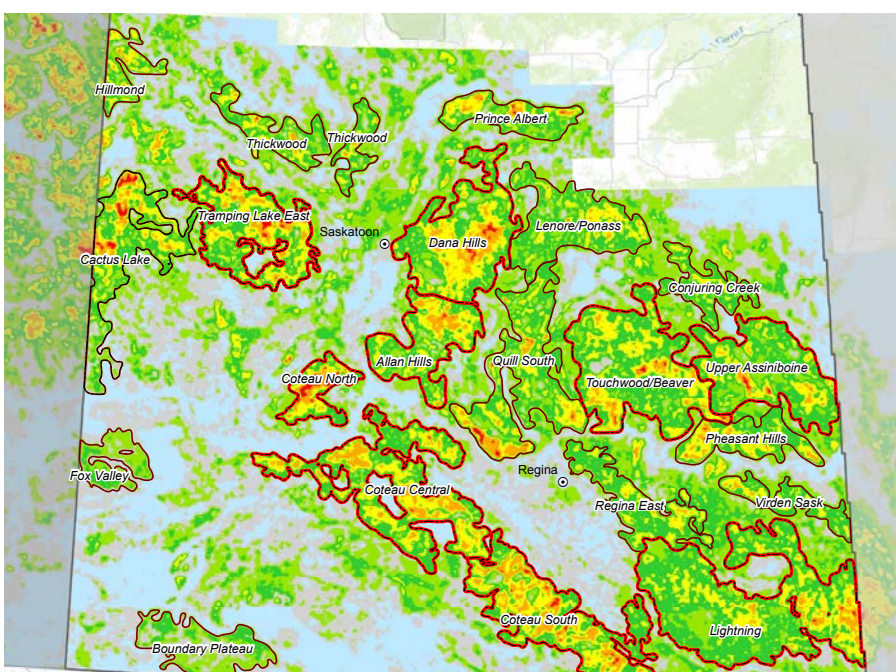
Saskatchewan is an important source for waterfowl migrating to Louisiana.

Historical waterfowl band recovery data has established a clear link between waterfowl produced and banded in Saskatchewan are substantial to the overall waterfowl population of the Mississippi Flyway. Data further supports that the priority areas supported by the LDWF funds are a primary source for waterfowl harvested in Louisiana.

Efforts must strategically target the ‘best of the best’ of these habitats to most effectively benefit waterfowl populations.

The highest densities of breeding ducks in North America occur in the Prairie Pothole Region (PPR) of Canada. Located within the PPR are the Prairie and Aspen Parkland Eco-regions of Saskatchewan, which are composed of a diversity of wetland and upland habitats. These habitat characteristics make this area key to waterfowl production and provide a basis to strategically deliver conservation programs. Although the value of habitats across the PPR have been degraded and continue to be at risk, based on the U.S. Fish and Wildlife Service survey data, the PPR and particularly these priority areas, continue to stand out as the *‘best of the best’* breeding habitats in North America.

Key priority areas within the PPR of Saskatchewan have been selected as the focus for LDWF funding. These include the Allan/Dana Hills, Coteau, Trampling Lake East, Lightning and Upper Assiniboine priority areas (see map below).



Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), and the GIS User Community

FUNDING

The LDWF's contribution of \$326,399 toward the priority areas in the Saskatchewan prairie pothole region was matched by DU, NAWCA and other partner funds totaling \$1,305,600.



DU and NAWMP remain focused on the PPR of Canada and Canadian partners continue to grow their support with long term match at 50% of the total funds expended under the NAWMP in Canada.

FUNDING & ACCOMPLISHMENTS



Based on the 2014 request, DUC has delivered against specific objectives for the following habitat initiatives in Saskatchewan.

Habitat Initiative	Goals (acres)	Accomplishments (acres)	Program Costs (\$)
Habitat Retention	1,339	1,904	\$788,373
Wetland Restoration	97	37	\$56,953
Upland Restoration	2009	952	\$146,931
Habitat Asset Management*	108,800	224,969	\$313,343
Total	3,445	2,893	\$1,305,600

* Habitat Asset Management acres are not incremental and are therefore not included in the total acre goals.

Habitat Retention

Drainage of wetlands and breaking of native grass uplands continue to be the most significant activities negatively impacting waterfowl. DUC uses a variety of program tools to protect remaining habitats that are vital to the long-term waterfowl productivity of Saskatchewan.

Conservation easements and agreements - protect habitats on private lands by offering financial incentives for varying levels of protection. All conservation easements are perpetual and are mostly done in partnership with provincial and federal government agencies. Conservation agreements are all a minimum of 10 years and many were secured for less than a \$35 per acre investment by DU.

Land purchase - is the most intensive program that DU delivers and is an important tool to protect highly valued habitats at high risk. As the cost of purchasing land continues to rise, DU invests in habitat to ensure the greatest waterfowl benefits are derived. DU is seven years and 35,000 acres into a 10-year allowance to purchase up to 100,000 acres of conservation habitat in Saskatchewan.

Revolving Land Purchase - is a program tool whereby DU can purchase land to restore wetlands and grasslands and then sell the property with a perpetual conservation easement protecting all habitats. This tool is valuable in extending the impact of our conservation funding as well as achieving habitat protection and restoration in areas that are difficult to find willing landowners to restore habitat or sign conservation easements.

Wetland rebuilds - are a re-investment into existing wetland projects that are highly productive and successful for waterfowl. These projects have met and surpassed their original design and agreement terms and require new infrastructure and agreements to ensure their productive capacity for another 30 years. DU renews agreements with the landowners on the project and constructs or repairs the required physical improvements to maximize wetland productivity and waterfowl recruitment.



WINTER WHEAT

Winter wheat, which is a fall-seeded crop, is particularly beneficial to northern pintails, a species that remains below long term populations since the late 1970s.

Wetland Restoration

Most wetland restoration work has to occur on private lands. More than 75 years of program delivery has taught us that it takes a combination of intensive and extensive programs to successfully work with producers. DUC is currently using other programs such as land purchase to initiate efforts to restore wetlands. Goals for wetland restoration increased this year due to drying conditions resulting in an increased opportunity to complete construction on a number of basins. DUC will continue to pursue wetland restoration opportunities that come available.

Upland Restoration

Duck nest success is a major influential factor for continental waterfowl populations. Improving nest success in the priority areas and surrounding PPR will require the restoration of grass to provide secure nesting habitat. DUC focused significant efforts on restoring perennial cover in the priority areas through two primary efforts:

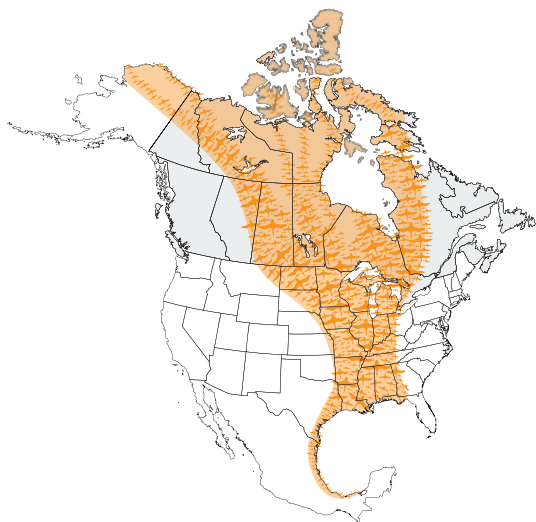
Forage conversion programs - provide incentives to landowners to convert cultivated land to perennial cover to provide waterfowl nesting benefits and support the beef industry. For waterfowl, the increase in forage provides more nesting choices with better protection from predators.

Winter wheat programs - focus on the agronomic and economic benefits of the crop to the producer. Approaches vary from supporting research to developing new varieties that are more successful in the Canadian prairies, to working more directly with the producers through incentive or extension programs. DUC's research has confirmed that there are **24 times more ducks hatched in winter wheat** compared to spring wheat on a per acre basis because both nest success and density increase.

Habitat Asset Management

The successful delivery of conservation programs has been occurring over the past 75 years of DU's existence. This represents a substantial investment by DU and many other partners to place a valuable network of habitat projects across Saskatchewan and the rest of the breeding grounds. In order to ensure these projects return the maximum benefit to waterfowl an annual investment of resources is required. HAM activities include annual maintenance, grassland rejuvenation, water level management and repair of damaged water level management infrastructure.





Ducks Unlimited and the Louisiana Department of Wildlife and Fisheries are working together to conserve the 'best of the best' waterfowl habitats in Saskatchewan.

SECURING THE LEGACY



Ducks Unlimited (DU) is the world leader in wetland conservation.

The *PHJV Implementation Plan* and DU have set habitat objectives to fully recover the Canadian Prairies and to sustain waterfowl production. Continued partnerships will be the key to success.

DU values its relationship with LDWF and recognizes them as a key player in supporting NAWMP conservation efforts in Canada. However, increased support from all partners is needed if the goals of NAWMP are to be met.

The waterfowl community continues to recognize habitat programs as the primary solution to waterfowl recovery. DUC is the primary delivery agent of the NAWMP program in the PPR of Canada.

Your support and continued action on the Canadian Prairies means that critical waterfowl habitat will be protected in the top waterfowl production area of North America.

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APPENDIX - Accomplishment Details



Habitat Initiative	Direct Programs	Extension Programs	FY14 Total	FY14 Costs
	(Acres) ¹	(Acres) ²	(Acres)	
Habitat Retention				
Conservation Easements	532	-	532	\$91,252
Land Purchase	235	-	235	\$218,433
Revolving Land Purchase	791	-	791	\$446,683
Lease / Conservation Agmt	346	-	346	\$32,005
Sub-total	1,904	-	1,904	\$788,373
Wetland Restoration	37	0	37	\$56,953
Upland Restoration				
Conservation Forages	553	9,732	10,285	\$35,208
Winter Wheat	399	80,658	81,057	\$47,865
Nesting Cover Enhancement ³	-	-	266	\$63,858
Sub-total	952	90,390	91,342	\$146,931
Total Acres	2,893	90,390	93,283	
Habitat Management⁴			224,969	\$313,343
Total Expenditure FY14				\$1,305,600

¹ Direct programs – Programs whereby DUC directly impacts actions of producers, improves, or protects habitat.

² Extension programs – are programs whereby DUC extends technical advice mutually beneficial to both producers and to waterfowl habitat.

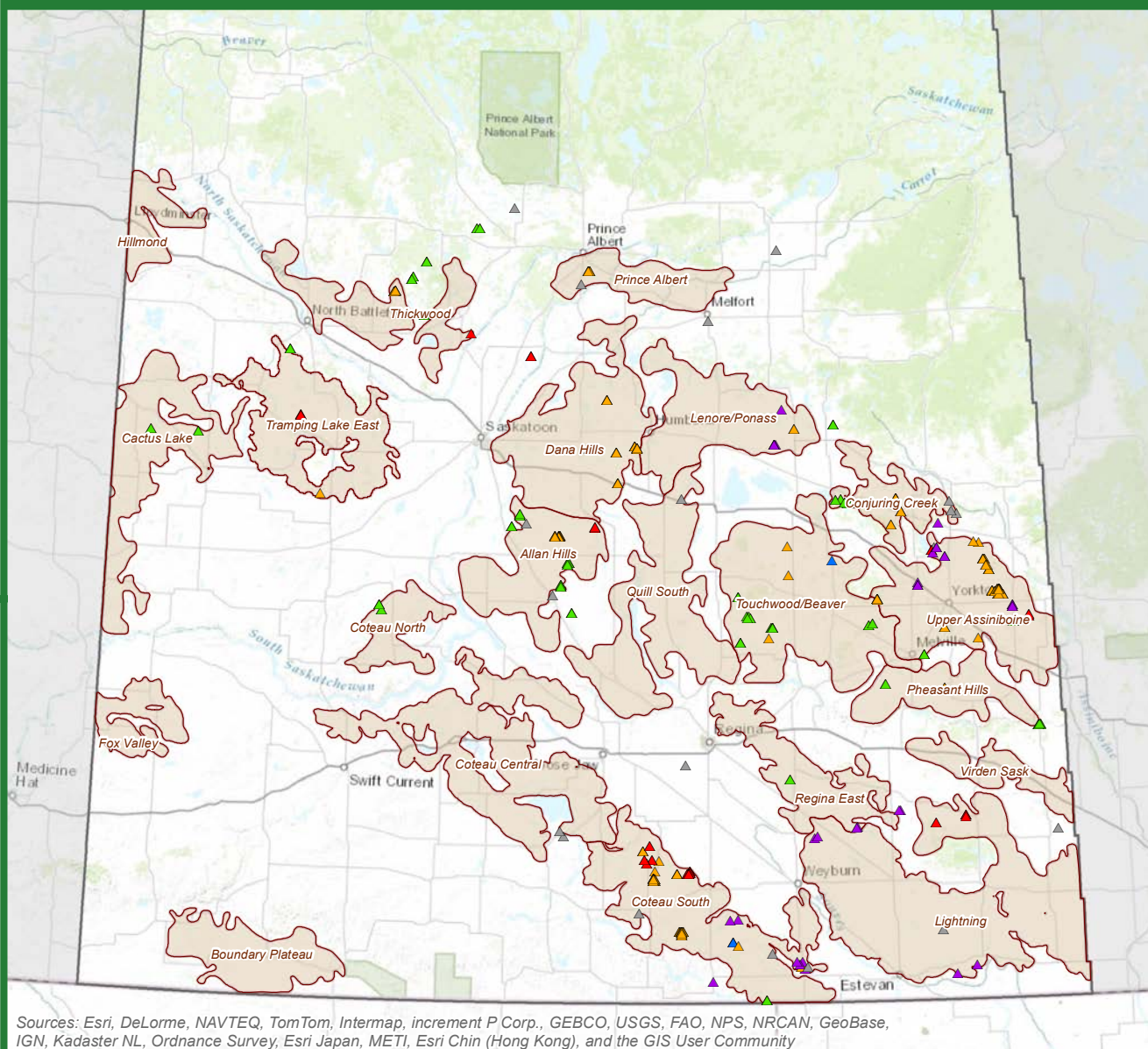
³ Nesting Cover Enhancement - The acres in this category were previously secured and are not included in the total of habitat accomplishments.

⁴ Habitat Management - These acres include the existing projects requiring annual management to maintain healthy habitats. The acres in this category are not included in the total of habitat accomplishments.

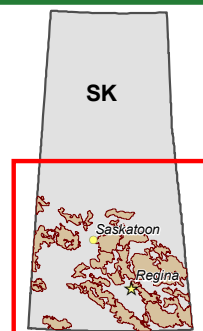


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Ducks Unlimited Canada Segments Secured in FY 2014 Saskatchewan



Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), and the GIS User Community



Securement Method

- ▲ Purchase
- ▲ Paid CE
- ▲ Conservation Agreement
- ▲ Lease
- ▲ Management Agreement
- ▲ Other Programs

DUC Priority Areas



0 45 90 180
Kilometers
NAD83 UTM Zone 13N

Sources:
DUC Inventory, Ducks Unlimited Canada, 2014;
World Topographic Map, Environmental
Systems Research Institute (ESRI), 2014.

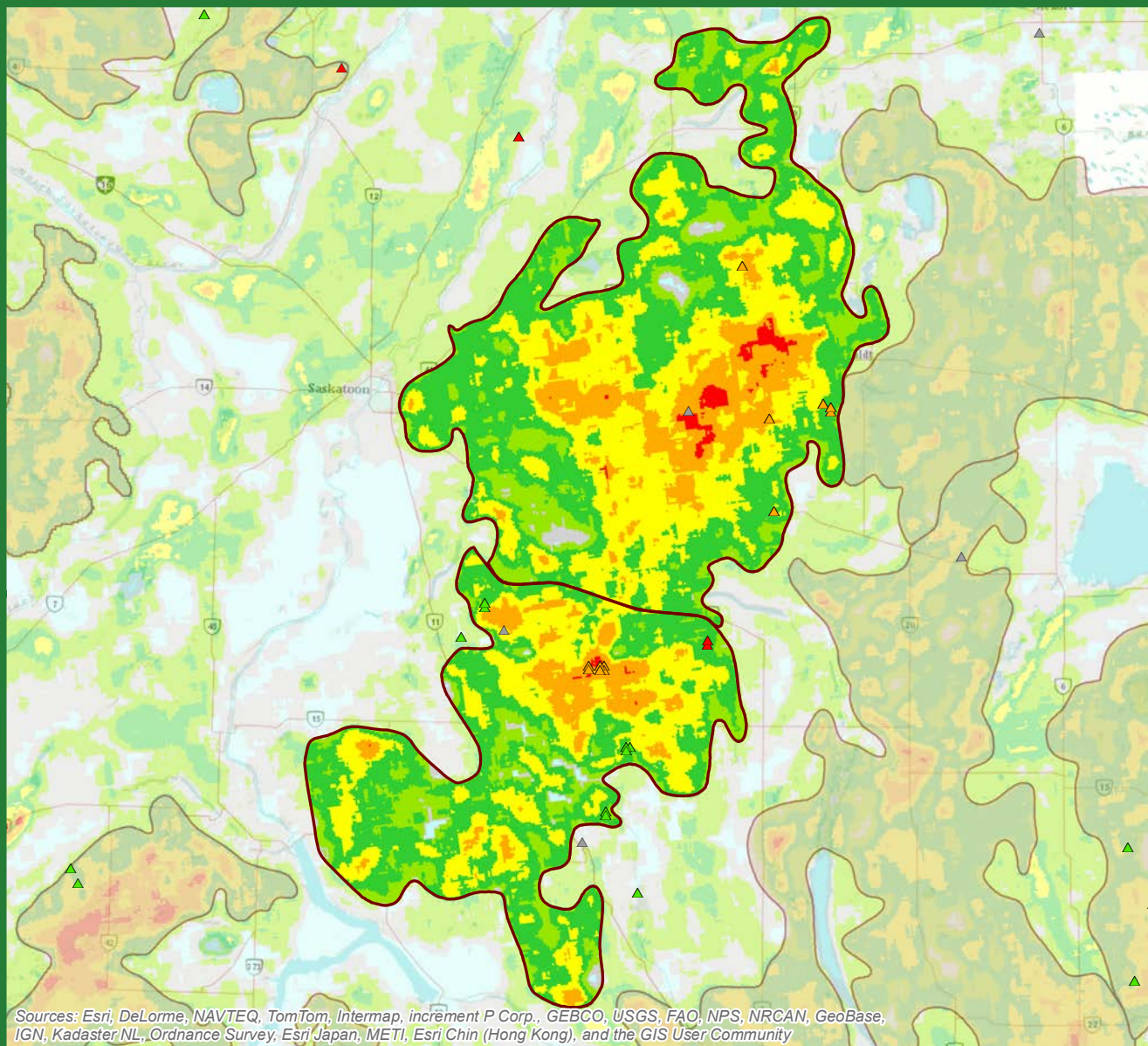


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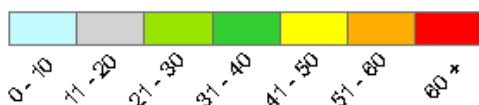
Ducks Unlimited Canada

Segments Secured in FY 2014

Allan/Dana Hills Priority Landscapes, Saskatchewan

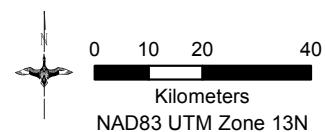


Predicted Breeding Pairs (per sq. mile)



Securement Method

- | | |
|--------------------------|------------------------|
| ▲ Purchase | ▲ Lease |
| ▲ Paid CE | ▲ Management Agreement |
| ▲ Conservation Agreement | ▲ Other Programs |



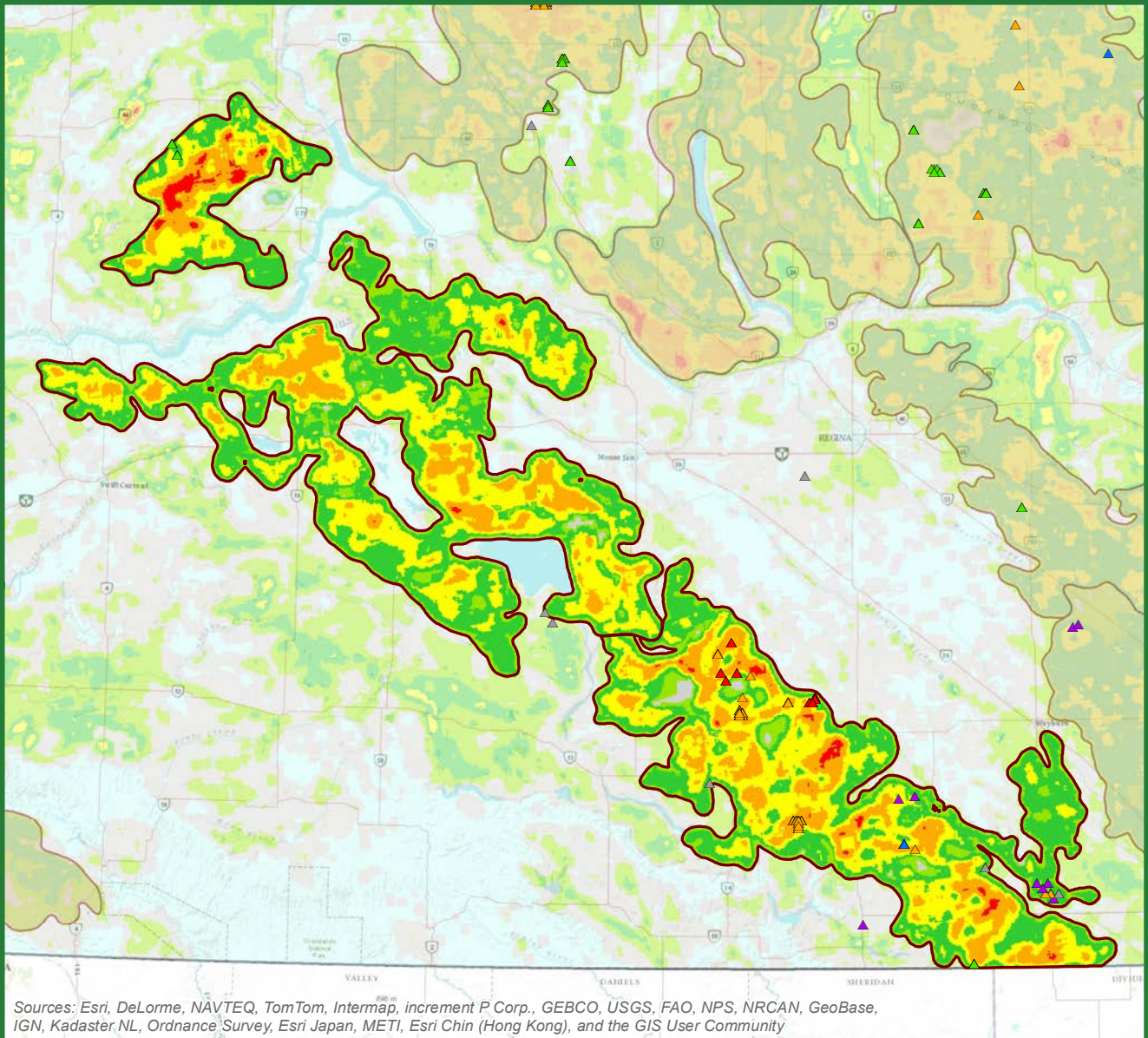
Sources:
DUC Inventory, Ducks Unlimited Canada, 2014;
World Topographic Map, Environmental
Systems Research Institute (ESRI), 2014.



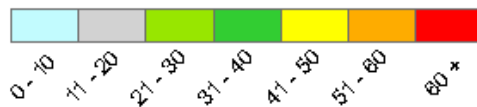
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Ducks Unlimited Canada

Segments Secured in FY 2014
Coteau Priority Landscapes,
Saskatchewan

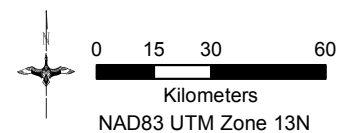


Predicted Breeding Pairs (per sq. mile)



Securement Method

- | | |
|--------------------------|------------------------|
| ▲ Purchase | ▲ Lease |
| ▲ Paid CE | ▲ Management Agreement |
| ▲ Conservation Agreement | ▲ Other Programs |



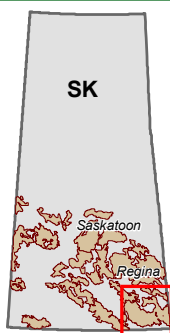
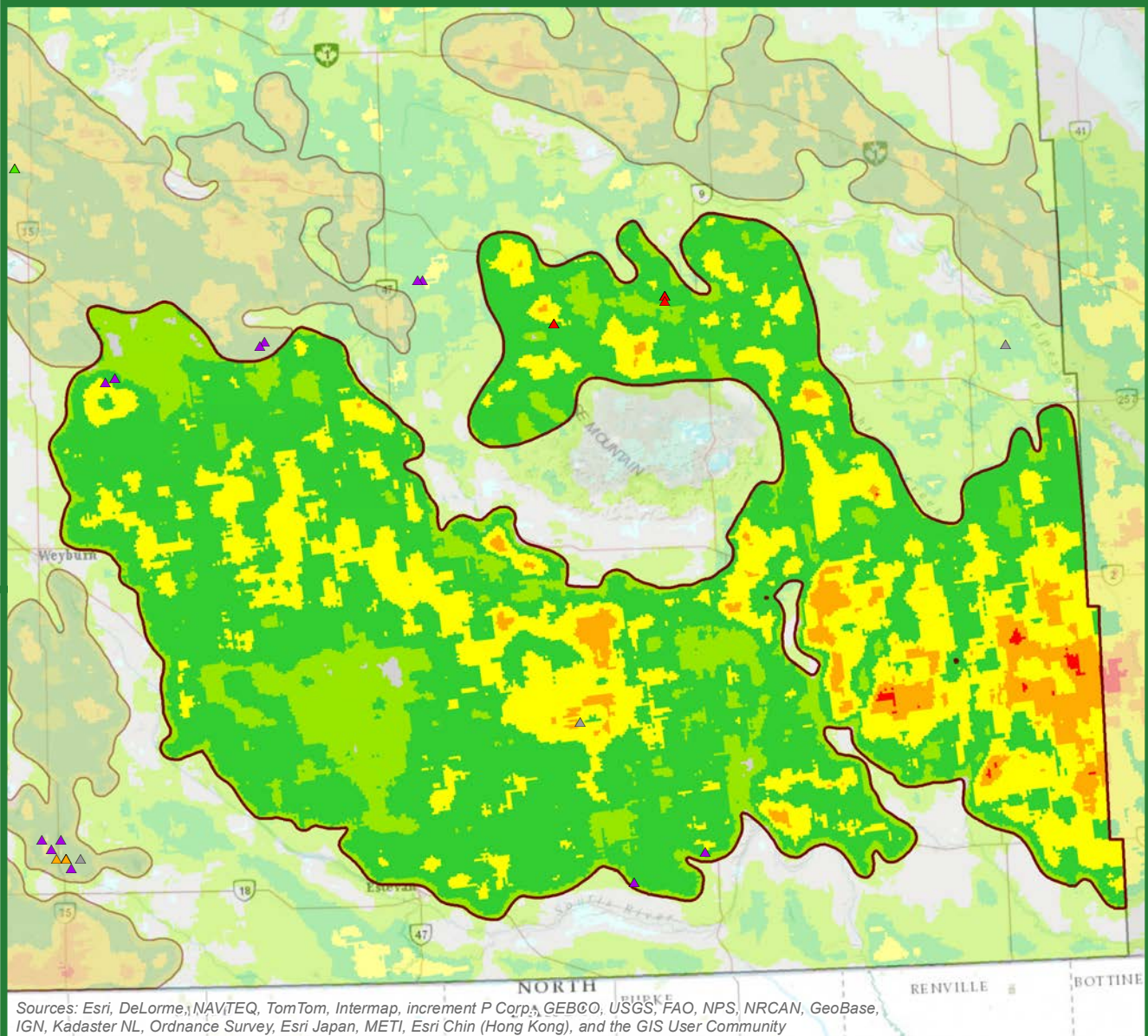
Sources:
DUC Inventory, Ducks Unlimited Canada, 2014;
World Topographic Map, Environmental
Systems Research Institute (ESRI), 2014.



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Segments Secured in FY 2014
Lightning Priority Landscape,
Saskatchewan



Predicted Breeding Pairs (per sq. mile)



Securement Method

- | | |
|--------------------------|------------------------|
| ▲ Purchase | ▲ Lease |
| ▲ Paid CE | ▲ Management Agreement |
| ▲ Conservation Agreement | ▲ Other Programs |



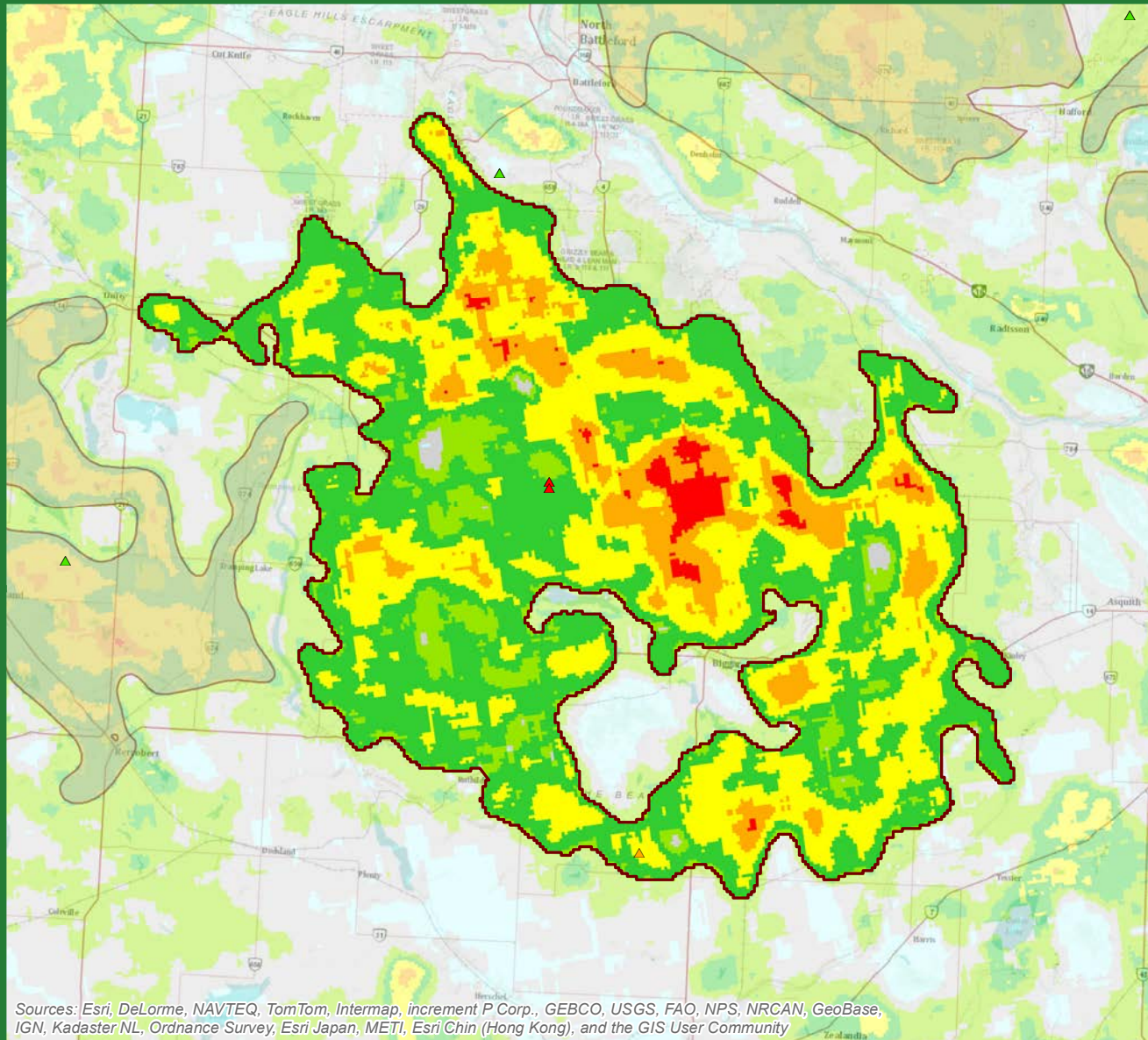
0 5 10 20 30
Kilometers
NAD83 UTM Zone 13N

Sources:
DUC Inventory, Ducks Unlimited Canada, 2014;
World Topographic Map, Environmental
Systems Research Institute (ESRI), 2014.

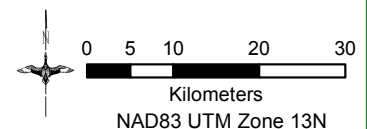


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Ducks Unlimited Canada Segments Secured in FY 2014 Tramping Lake East Priority Landscape, Saskatchewan



Predicted Breeding Pairs (per sq. mile)



Securement Method

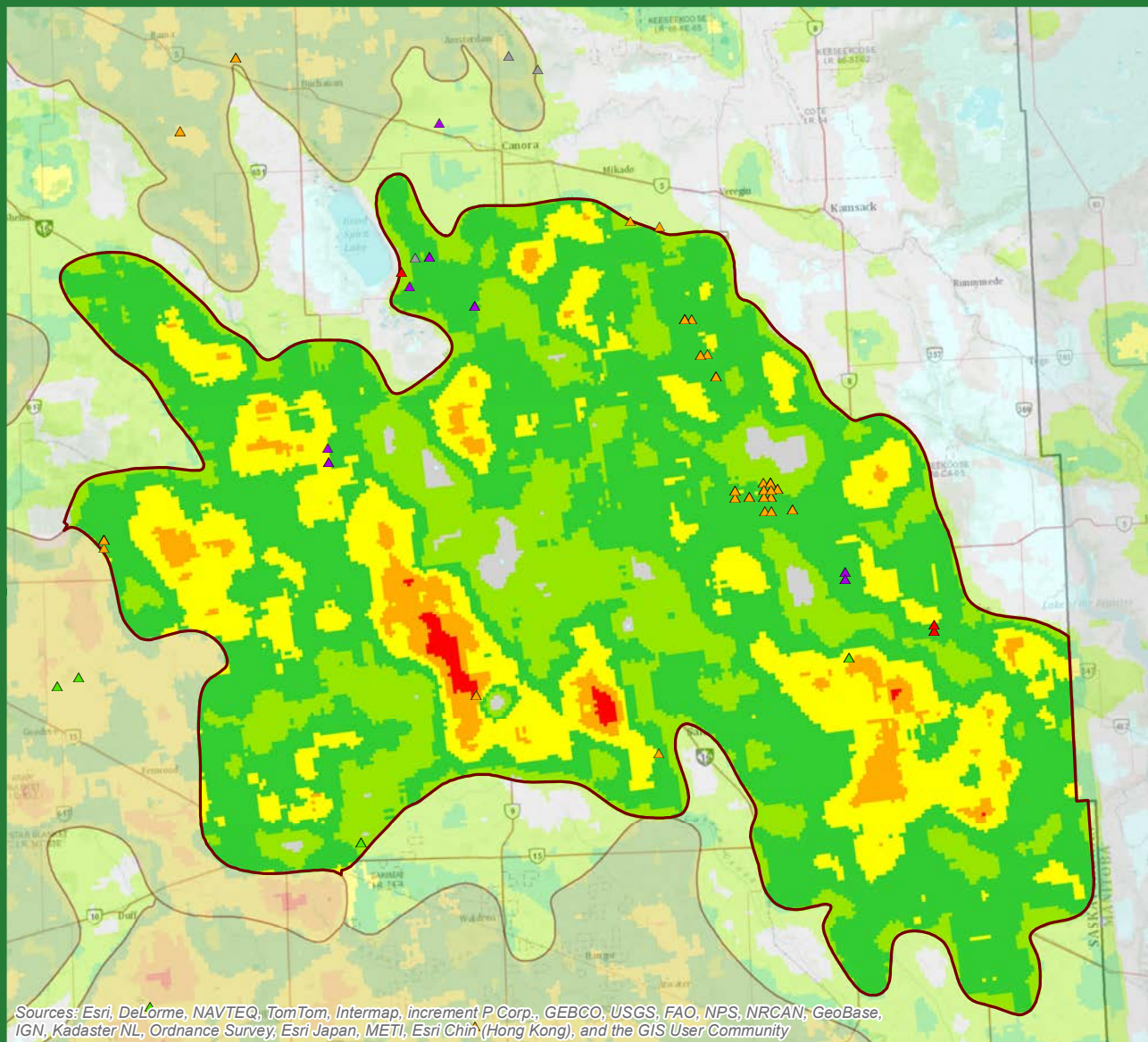
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| ▲ Purchase | ▲ Lease |
| ▲ Paid CE | ▲ Management Agreement |
| ▲ Conservation Agreement | ▲ Other Programs |

Sources:
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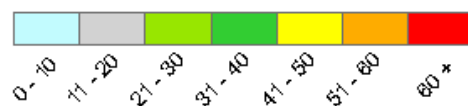
Ducks Unlimited Canada

Segments Secured in FY 2014

Upper Assiniboine Priority Landscape, Saskatchewan

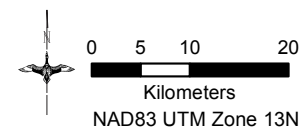


Predicted Breeding Pairs (per sq. mile)



Securement Method

- | | |
|--------------------------|------------------------|
| ▲ Purchase | ▲ Lease |
| ▲ Paid CE | ▲ Management Agreement |
| ▲ Conservation Agreement | ▲ Other Programs |



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